

~~170-135.22~~ *Wp*

Fig. 1
A

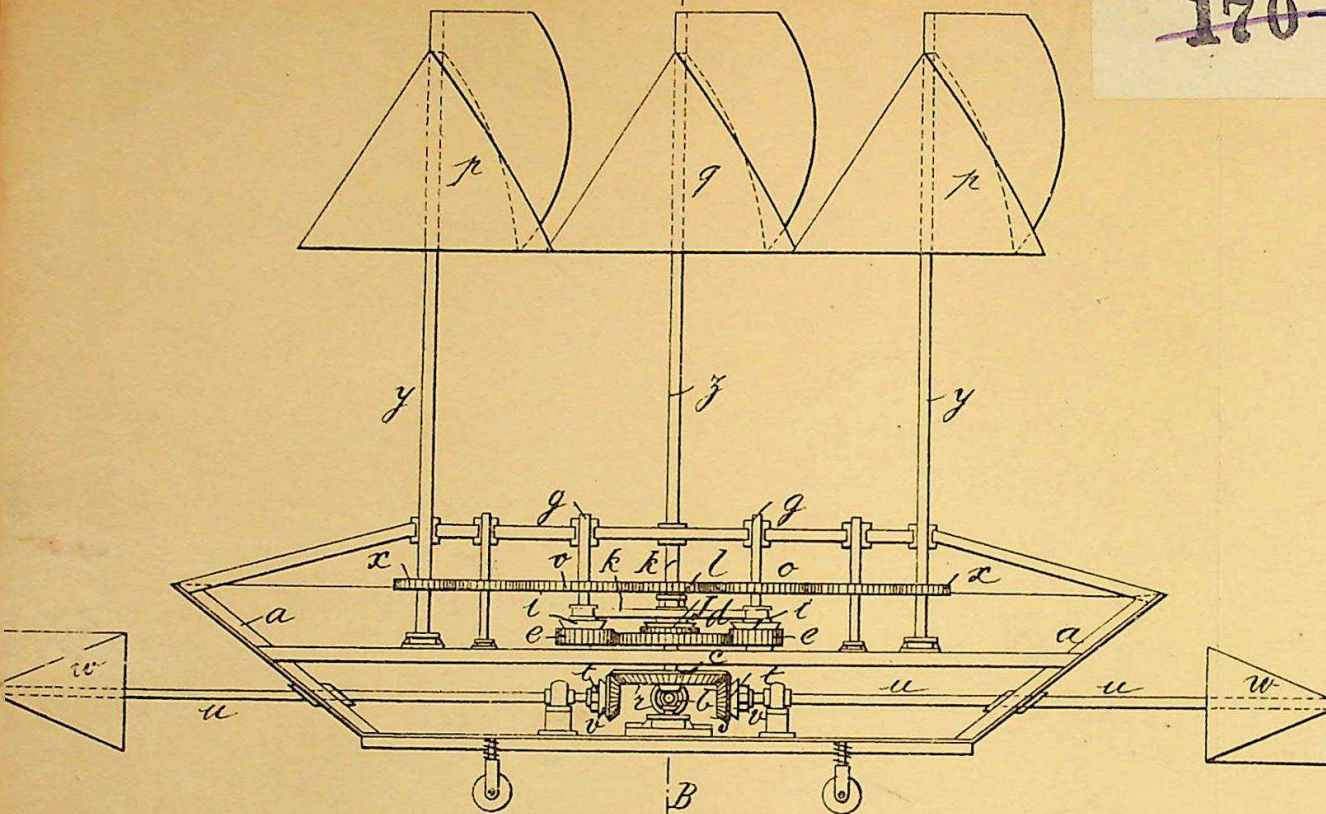


Fig. 2

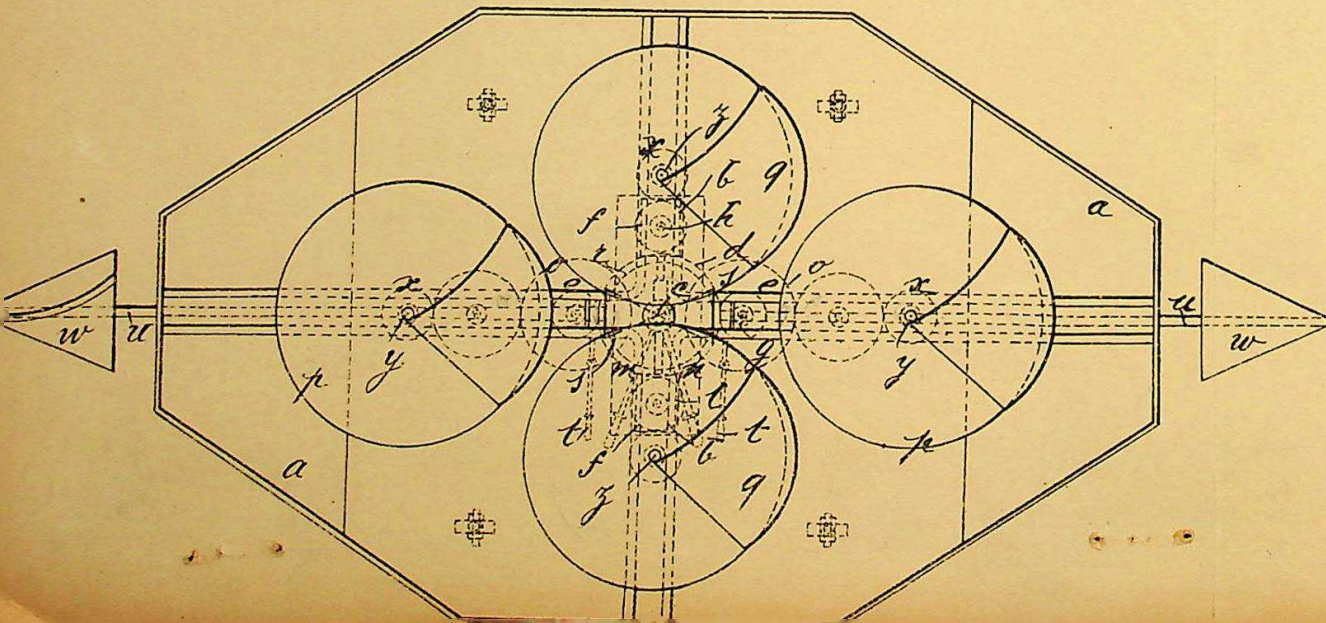
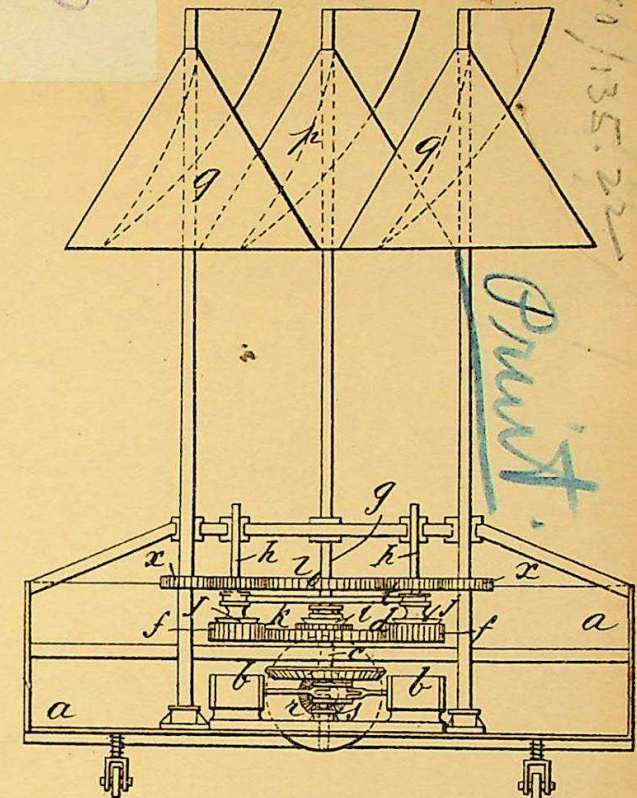


Fig. 3



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A.D. 1900

DUPLICATE

Date of Application, 26th Oct., 1900

Complete Specification Left, 25th July, 1901—Accepted, 28th Sept., 1901

PROVISIONAL SPECIFICATION.

"Improvements relating to Apparatus for Aerial Navigation."

We, ANTOINE PADOUE FILIPPI, of Bizerte, Tunis, and CHARLES MACLER, of Tunis, in Tunis, Government Contractors, do hereby declare the nature of this invention to be as follows:—

This invention relates to apparatus for aerial navigation and is based upon the principle that by rapidly rotating around a vertical axis, a convex or conical shaped body having a conveniently shaped wing a displacement of air pressure above such rotating body is produced. Owing to this difference in pressure beneath said rotating body an ascending motion is imparted thereto providing the effort produced is superior to the weight of the apparatus.

According to our invention we provide a conveniently shaped body intended to form the body of the air ship and adapted to contain in the interior thereof the motor for driving the entire mechanism.

The mechanism for raising and lowering the air ship consists preferably of four rotary cones each provided with a wing and mounted on a vertical shaft adapted to be rotated by said motor. These shafts are connected to the motor in such a manner as to permit of them being rotated in pairs or independently from each other as desired.

The mechanism for steering the vessel also consists of two cones each provided with a wing and mounted on horizontal shafts operated by the said motor.

The shafts carrying the steering cones are operated through suitable bevelled wheels gearing with bevelled pinions mounted loose upon said shafts and each being provided with a friction clutch controlled by suitable levers. These levers are adapted to be operated in such a manner that one or the other of the steering cones may be rotated separately or both simultaneously.

We arrange beneath the body of the vessel a suitable number of wheels or rollers appropriately mounted upon springs in order to reduce the shock of landing and permit of moving the apparatus.

Dated this 26th day of October 1900.

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HASELTINE LAKE & Co.
45 Southampton Buildings, London, W.C.
Agents for the Applicants.

COMPLETE SPECIFICATION.

"Improvements relating to Apparatus for Aerial Navigation".

We, ANTOINE PADOUE FILIPPI, of Bizerte, Tunis, and CHARLES MACLER, of Tunis in Tunis, Government Contractors, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to apparatus for aerial navigation and is based upon the principle that by rapidly rotating a convex or conical shaped body having

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Filippi and Macler's Improvements relating to Apparatus for Aerial Navigation.

a conveniently shaped wing around a vertical axis, a displacement of air pressure is produced. Owing to this difference in air pressure beneath said rotating body, an ascending motion is imparted thereto, providing that the effort produced is superior to the weight of the apparatus.

It will be clear that the alteration in the atmospheric pressure produced at the upper surface of the rotating cone will produce an effect nearly analogous to the whirl-motion of a cyclone and thus elevates the machine with its appended parts.

In order that our invention may be readily understood and carried into effect we will now proceed to describe the same fully with reference to the accompanying drawings, in which:

Figure 1, a side-elevation, partly in section, of an apparatus for aerial navigation embodying this invention.

Figure 2, is a plan of the same, and

Figure 3, is a transverse section taken on the line A—B of Figure 1.

Our improved apparatus consists of a skiff or other conveniently shaped body *a*, upon the bottom of which is fixed a motor *b* for driving the entire mechanism, said motor, being adapted to operate both the navigating and also the steering mechanisms.

The navigating mechanism consists preferably of four rotary cones *p p q q* each provided with a wing. These four cones act in pairs, viz: *p p* and *q q* operate together.

The steering mechanism consists of two cones *w* each provided with a wing. All these elevating and steering members act in such a manner so as to produce an alteration in atmospheric pressure in front of them, and said members are all driven or operated by the motor *b* which actuates a vertical shaft *c* upon which is keyed a toothed wheel *d* gearing with four pinions *e e f f* which turn loose upon vertical spindles *g g h h* and they can be fixed upon their spindles by friction cones *i i j j* connected together two by two by traverses *k l* adapted to be operated by means of two hand-levers *m n*. In this manner it is possible to render fast upon their spindles either the two pinions *e e* or the two pinions *f f* as may be desired for rotating either the two cones *p p* or the two cones *q q*.

Upon the spindles *g g h h* are mounted wheels *o* in gear with the toothed wheels *x* carried by four vertical shafts *y y z z*. Each of these four vertical shafts *y z* is fitted with a winged motive cone *p* or *q* respectively.

The shafts *u u* carrying the steering cones *w w* are operated in the following manner. Upon the vertical shaft *c* is keyed a bevelled wheel *r* in gear with two bevelled pinions *s s* mounted loose upon the shafts *u u* and each being provided with a friction cone *v* controlled by a lever *t*. The levers *t t* may be operated separately or simultaneously so as to cause the corresponding pinions *s s* to be brought into engagement with the shafts *u u* and in this manner, one or the other of the steering cones *w w* may be rotated with a view of going in one or the other direction, or both can be rotated simultaneously so as to cause the air ship to turn round on the same spot.

The alteration in the atmospheric pressure which this rotary motion produces at the external surface of the cones causes a displacement in the direction of this depression whether it is in connection with the elevating cones *p* and *q* or with the lateral forward motion by the cones *w*.

Beneath the boat are fixed four spring controlled rollers for the purpose of reducing the shock of landing and also to permit of moving the apparatus which is thus readily transportable.

Having now particularly described and ascertained the nature of our said invention and in what manner the same is to be performed, we declare that what we claim is:—

The improved system of aerial navigation comprising convex conical, spherical or other surfaces provided with an external wing having a plane or curved

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surface, said winged cones or the like being adapted to receive a rapid rotary motion for the purpose of producing at the exterior thereof an atmospheric depression whereby a forward thrust is obtained against the rear of the cone; such action being equally utilizable for ascending and for horizontally steering
5 the air-ship substantially as hereinbefore described and illustrated by the accompanying drawings.

Dated this 25th day of July 1901.

HASELTINE LAKE & Co.
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Agents for the Applicants.

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